

# EFFECTIVENESS OF CO-OPERATIVE LEARNING ON THE ACHIEVEMENT OF LEARNERS AND ATTITUDE OF LEARNERS FOR THE TOPIC APPLIED BIOLOGY IN ZOOLOGY STUDYING (AT PLUS TWO LEVEL)

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## ABSTRACT

*The present study is an attempt to develop a co-operative learning technique and to gauge its effectiveness on the achievement and attitude of learners at plus two level. A single group pre achievement test and post achievement test papers are prepared to collect data to analyse the scores before and after treatment. Appropriate statistical analysis is carried out with interpretations. The findings reveals a fact that the co-operative learning techniques could augment remarkable achievement and attitude at the learners for the topic 'Applied Biology' in zoology studying at plus two level.*

**KEYWORDS:** Co-Operative Learning, Achievement, Attitude & Effectiveness at Plus Two Level

**Received:** Mar 26, 2019; **Accepted:** Apr 16, 2019; **Published:** Jun 04, 2019; **Paper Id.:** IJEEFUSJUN201916

## INTRODUCTION

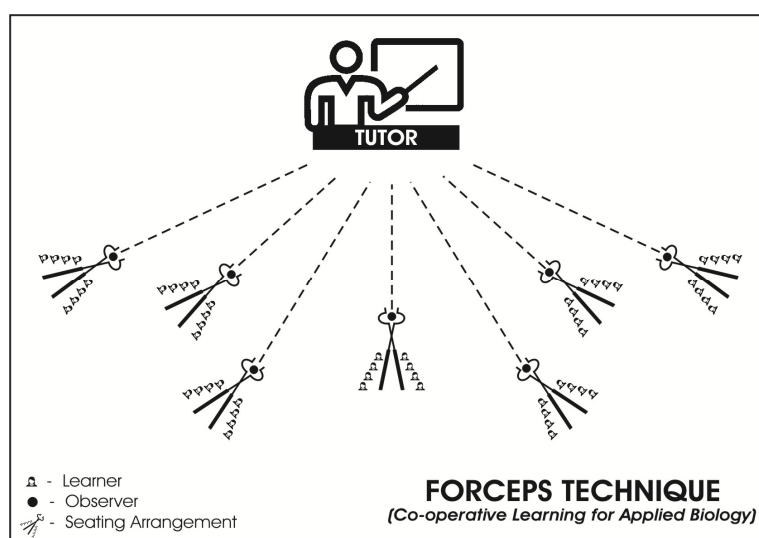
The changing scenario in the parlance of education, it is imperative that the class-room should invite well established co-operative learning in terms of small groups technique become handy so as to enable students to get access to dialogue, discussion, participation and the class-room management and finally perfection.

## ESSENTIALS OF CO-OPERATIVE LEARNING

- Students become actively involved in their own learning themselves and control over it.
- There is a face to face which could adjustment interaction.
- It promotes higher order thinking.
- This techniques is capable of enhancing self confidence.
- Collaborative skills such as questioning and preparing the list of problems can be achieved.
- It makes the students realize accountability and responsibility.
- Working together towards a common goal can be translated into permanency.
- Co-operative learning environment will pave way for the better and smarter achievement.

## UTILIZATION OF CO-OPERATIVE LEARNING TECHNIQUE FOR THE PRESENT STUDY

For the present study a new technique called ‘forceps technique’ is being used. It has gone through the technical validation before the field testing, a questionnaire about the technique is also prepared to get the approval from the experts. All accepted the new idea unanimously. The ‘forceps technique’ comprises 5 to 7 groups and each group consist of 5 to 6 members. There are observers and a tutor as found in the figure 1 each team is provided with a handout. After deliberation for a long time within groups, they will carry out discussion. Between groups evaluate the effectiveness of the group activities they will be given the achievement test paper to write the answer. The tutor monitors the group work with the help of observers and gets the feedback from the groups as well as the individual members.



**Figure 1**

## OBJECTIVES OF THE STUDY

To find out the effectiveness of the developed co-operative learning technique on the achievement of the learners for the topic ‘Applied Biology’ in zoology studying at plus two level.

To find out the effectiveness of Co-operative Learning Technique (CLT) on the attitude of learners towards Zoology at plus two level.

## HYPOTHESES OF THE STUDY

- There is no significant difference in the pre-test achievement level in ‘Applied Biology’ between the experimental group which is exposed to the co-operative learning techniques and the control group which is taught through the conventional lecture method at plus two level.
- There is no significant difference in the post-test achievement level in ‘Applied Biology’ between the experimental group which is exposed to the co-operative leaning technique and the control group which is taught through the conventional ‘lecture method’ at plus two level.
- There is no significant relationship in post-test achievement level of the experiment group which is exposed to the co-operative leaning on the attitude towards zoology at plus two level.

## METHODOLOGY

The experimental method is adopted for the present study, the independent variable namely co-operative learning is put to test the researcher has made the best use of ‘forceps techniques’ of co-operative learning for the topic ‘Applied Biology’ in zoology at plus two level.

## SAMPLING

Random sampling is used and the sample size is 50 for each group and in total 100 samples are taken for the study.

## TOOLS USED

The investigator has conducted achievement test paper and one ‘Attitude scale towards Zoology’ based on the Likert type 5 point scale in respect of 45 statements.

## Statistical Techniques Used

- Mean
- Standard Deviation
- t- test
- Pierson’s product moment correlation ‘r’

## ADMINISTRATION OF PRE-TEST AND POST TEST

Pretest is conducted before treatment on both control group and experimental group and they are statistically matched. Post test is administered after the treatment with the help of scoring key and answer sheets are evaluated.

## DATA ANALYSIS AND INTERPRETATION

### Hypothesis 1

There is no significant difference in the pre test achievement level of learners for the topic ‘Applied Biology’ in Zoology between the Experimental group which is exposed to the evolved ‘Co-operative learning’ technique and the Control Group which is taught through the traditional ‘talk and chalk’ method at plus two level.

### Comparison Between Control Group and Experimental Group of the Mean Scores of Pre Test Achievement for The Topic Applied Biology

Table 1: Showing the Mean, Standard Deviation and ‘t -Test’ value of achievement level of learner for the subject ‘Applied Biology’ in Zoology between the Experimental group which is exposed to the evolved ‘Co-operative learning’ technique and the Control Group which is taught through the traditional ‘talk and chalk’ method at plus two level.

**Table 1**

Variable	Group	N	Mean	Standard Deviation	‘t’ – test value
APPLIED BIOLOGY	Control Group	50	5.42	0.992	0.634
	Experimental Group	50	8.52	0.953	

Not Significant at 0.05 level.

The table value of ‘t’ at 0.05 level of significance is 1.960

The calculated value of  $t = 0.634$  is not significant at 0.05 level of significance. It is inferred that there is no significant difference between the achievement level of learner for the subject 'Applied Biology' in Zoology between the Experimental group which is exposed to the evolved 'Co-operative learning' technique and the Control Group which is taught through traditional 'talk and chalk' method at plus two level.

Figure.1: Showing the performance of pre test achievement level of learner for the subject "Applied Biology" in Zoology between the Experimental group which is exposed to the evolved 'Co-operative learning' technique and the Control Group which is taught through the traditional 'talk and chalk' method at plus two level.

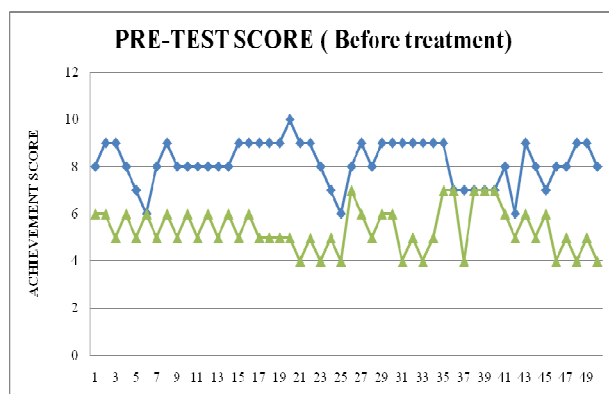


Figure 2

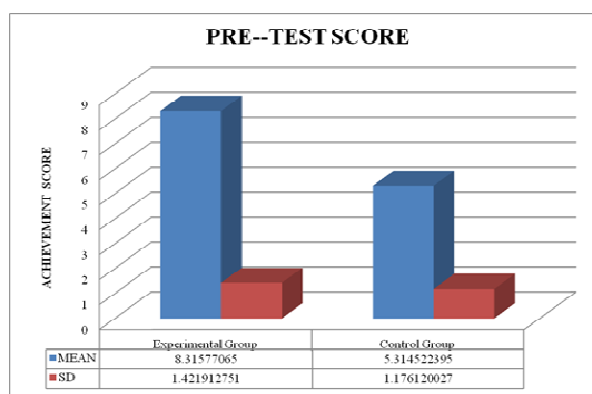


Figure 3

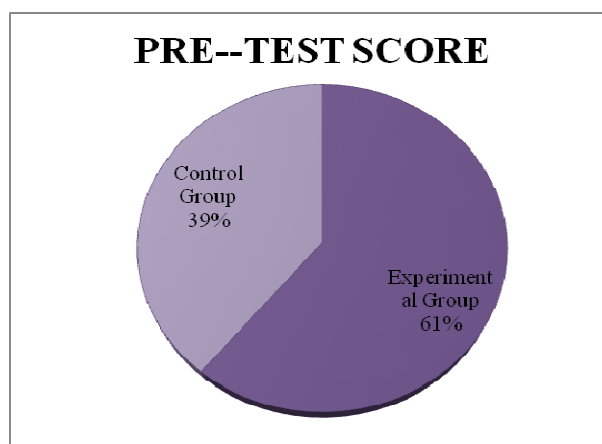


Figure 4

## HYPOTHESIS 2

There is no significant difference in the post test achievement level of learners for the topic 'Applied Biology' in zoology between the experimental group which is exposed to the evolved co-operative learning technique and the control group which is taught through the traditional talk and chalk method at plus two level.

### Comparison Between Control Group and Experimental Group of the Mean Scores of Post-Test Achievement for the Topic Applied Biology

Table 2: Showing the Mean, Standard Deviation and 't -Test' value post test of achievement level of learner for the subject 'Applied Biology' in Zoology between the Experimental group which is exposed to the evolved 'Co-operative learning' technique and the Control Group which is taught through traditional 'talk and chalk' method at plus two level.

Table 2

Variable	Group	N	Mean	Standard Deviation	't' – test value
APPLIED BIOLOGY	Control Group	50	12.68	1.94	5.634
	Experimental Group	50	46.24	1.85	

It's Significant at 0.05 levels.

The table value of 't' at 0.05 level of significance is 1.960

The calculated value of  $t = 5.634$  is significant at 0.05 level of significance. It is inferred that there is a significant difference between the achievement level of learner for the subject 'Applied Biology' in Zoology between the Experimental group which is exposed to the evolved 'Co-operative learning' technique and the Control Group which is taught through the traditional 'talk and chalk' method at plus two level.

Figure 5: Showing the post test of achievement level of learner for the subject 'Applied Biology' in Zoology between the Experimental group which is exposed to the evolved 'Co-operative learning' technique and the Control Group which is taught through the traditional 'talk and chalk' method at plus two level.

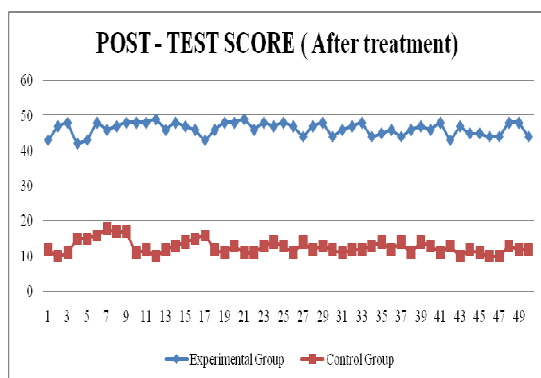


Figure 5

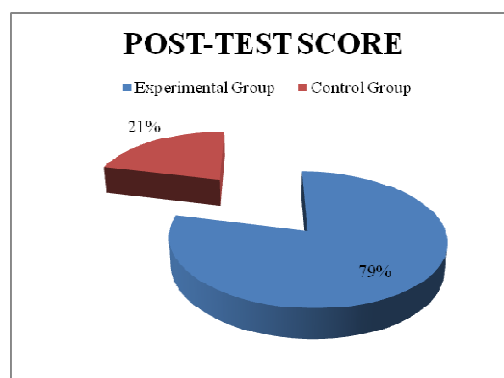


Figure 6

### Hypothesis 3

There is no significant correlation in the achievement level of learners for the topic 'Applied Biology' in Zoology of the Experimental group which is exposed to the evolved 'Co-operative Learning' technique on the "attitude towards Zoology" at plus two level.

### Correlation Between Experimental Group of the Mean Score of Post Test Achievement and the Attitude of the Students Towards the Zoology at Plus Two Level

Table 3: Showing the Mean, Standard Deviation and Correlation 'r' value of the achievement level of learner for the subject 'Applied Biology' in Zoology of the Experimental group which is exposed to the evolved 'Co-operative learning' technique and the attitude towards zoology of students studying at plus two level.

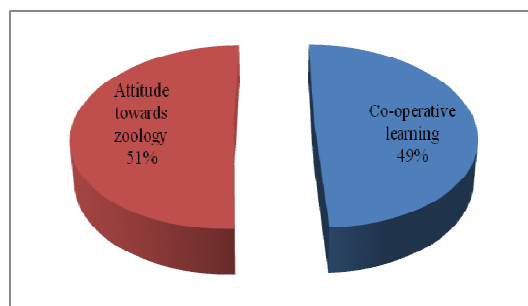
Table 3

Variable	Group	N	Mean	Standard Deviation	Correlation "r" value
Experimental Group	Co-operative Learning	50	45.94	1.43	0.691
	Attitude towards zoology	50	47.18	1.65	

Significant level 0.05, Table value 0.95

If correlation  $r = 0.691$ , It is inferred that, There is high level correlation between the achievement level of learner

for the subject “Applied Biology” in Zoology between the Experimental group which is exposed to the evolved ‘Co-operative learning’ technique and the attitude towards zoology of students studying at plus two level.



**Figure 7**

## **FINDINGS OF THE PRESENT STUDY**

This study has the fascinating revelation that co-operative learning technique is more effective than the conventional talk and chalk method. That is the new technique could augment better academic achievement. It has also revealed that there is a high level correlation between the achievement and attitude towards zoology of the students who are studying at plus two level

## **CONCLUSIONS**

Co-operative learning could enhance the collaborative skills among the students which in turn brings about remarkable academic achievement. The teacher should come forward to develop new techniques like ‘forceps technique’ to cater to the need of the students, as found in the present study. Apart from this, attitude towards ‘Zoology’ may help the students to do research projects and conduct experiments for future development in their academic career.

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